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JANUARY 1955

For The Average Enthusiast

PUBLISHED 1'6 MONTHLY

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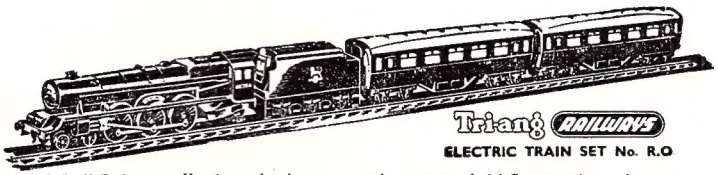

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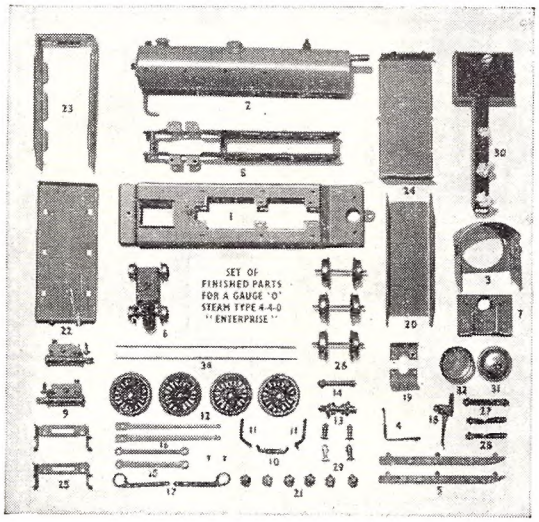

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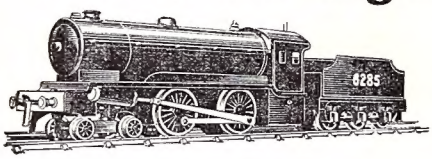

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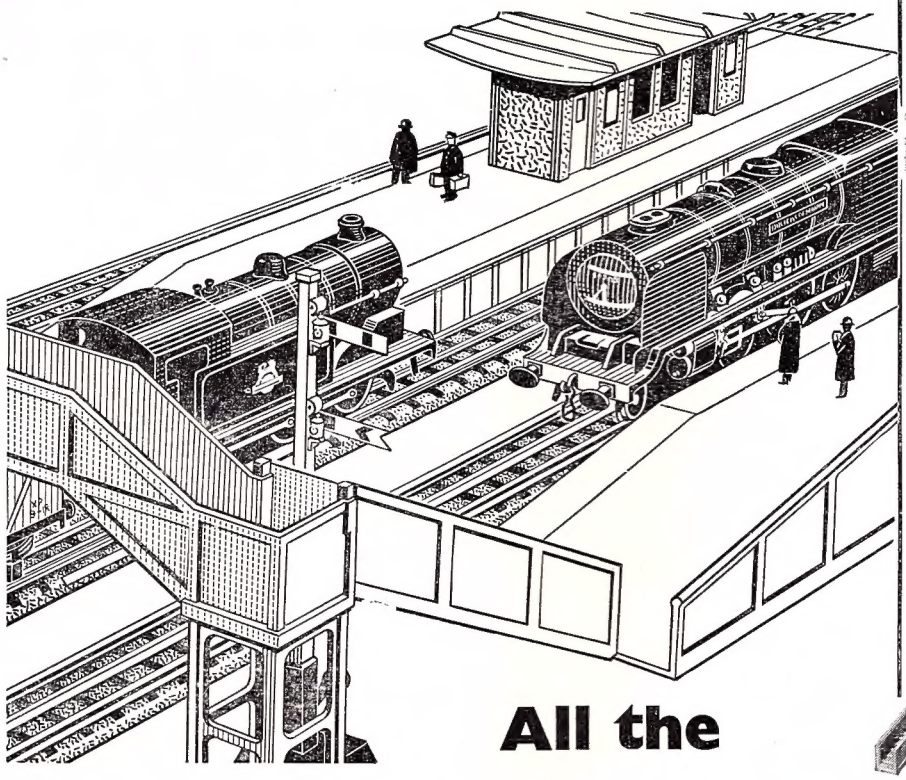

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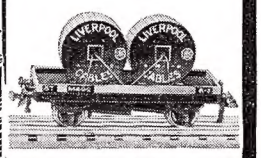
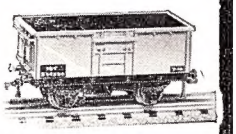
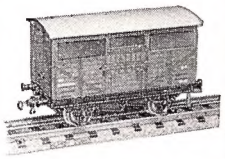


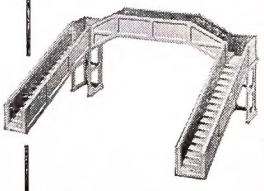
D1 Low-sided Wagon with drums **5/3**



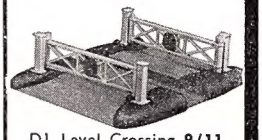
D2 Mineral Wagon (die-cast body) **4/11**



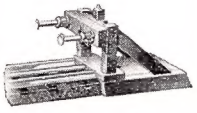
D1 Cattle Truck **4/11**



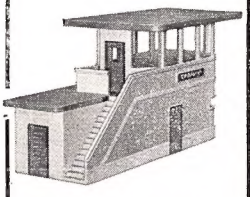
D1 Footbridge **9/11**



D1 Level Crossing **9/11**



D1 Buffer Stop **2/1**



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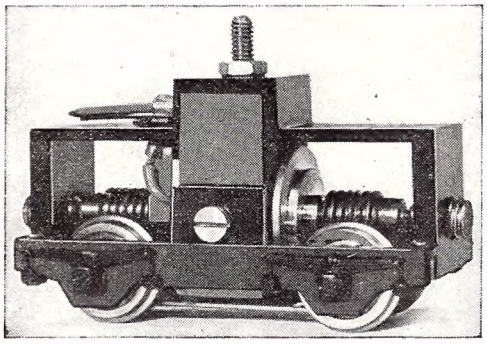

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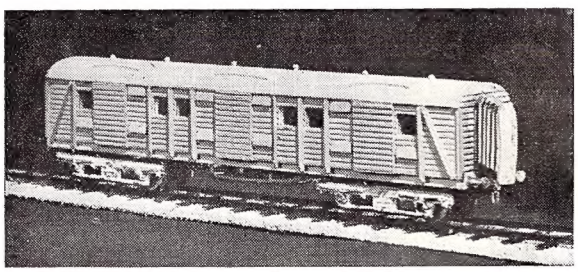

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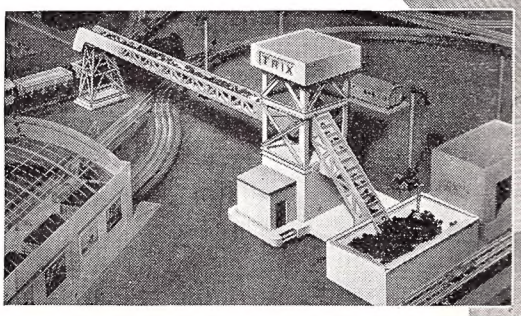

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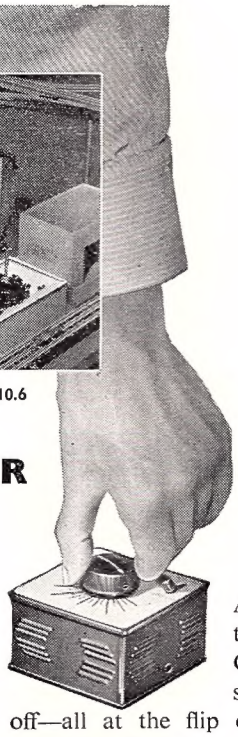

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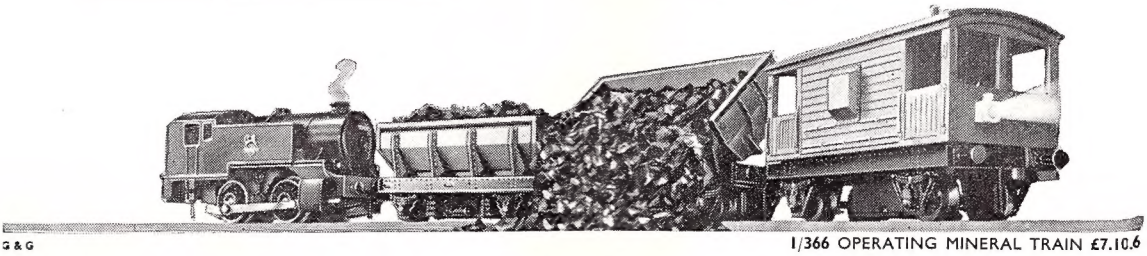

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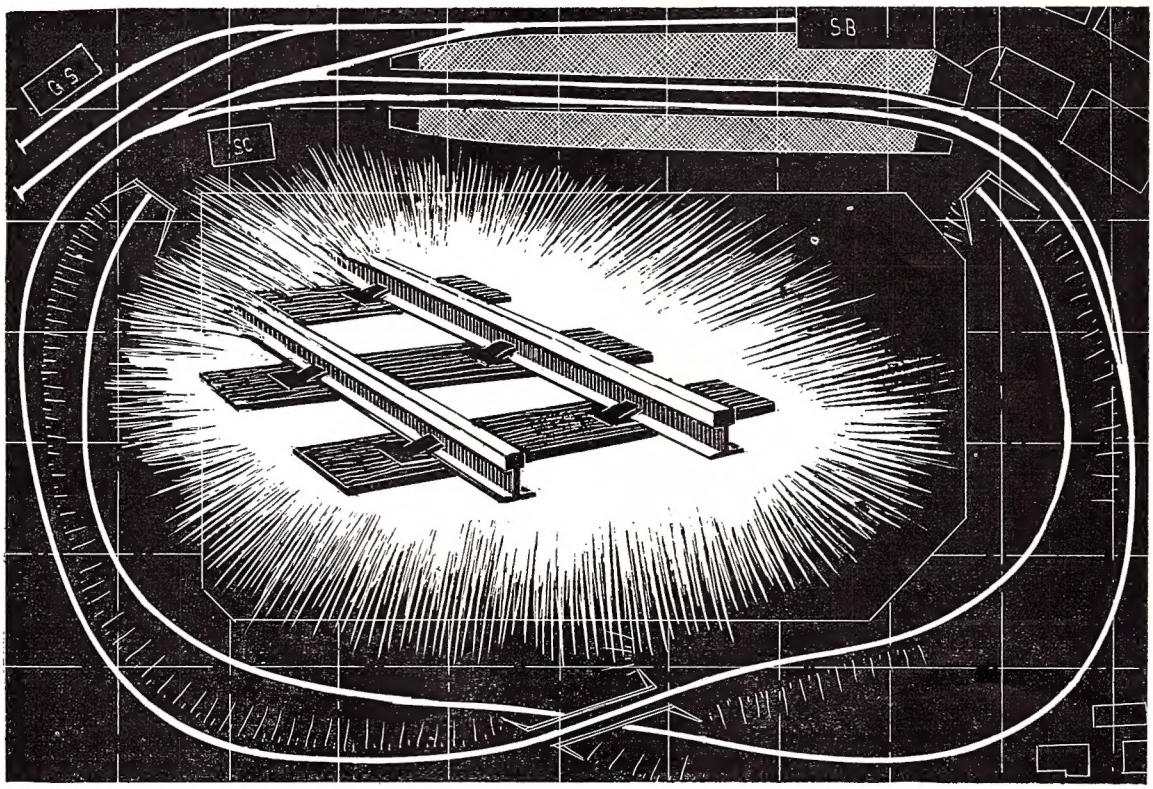

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RAILWAY MODELLER

For the Average Enthusiast Specializing in Small Scale Railway Modelling

VOL. 6 No. 51 JANUARY 1955

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Back numbers of most issues of the Railway Modeller from November 1951 are available, price 1/6 each plus postage (2d. first copy, ½d. each additional copy). We regret that certain issues are now out of print, while stocks of many others are low.

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NEXT MONTH

Our February issue will once again be a special issue for all enthusiasts with little space to spare. Among the many fine articles is a description of a model of the Rye and Camber Railway, built by Maurice Deane.

THE LOBBY

A Happy New Year to You

NOTHING could be more desirable or appropriate than to start this January issue with these customary few words, for what more could we wish our readers than continued happiness in 1955? That we play no small part in fostering this wonderful hobby of ours is in itself a pleasure to us, but it is most gratifying to learn from the many cards and letters we have received over the Christmas period that the RAILWAY MODELLER gives so much pleasure to countless people at home and overseas.

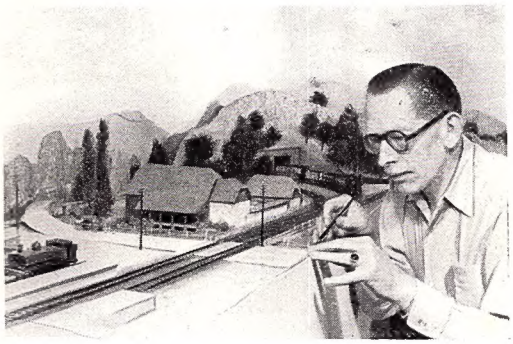
It is now our enjoyable task, as is natural at this time of the year, to look forward to the numerous good things we have already planned, and also to dwell in eager anticipation on the many modelling developments and activities which we have reason to know 1955 will disclose, and about which we shall have more to say at the appropriate time.

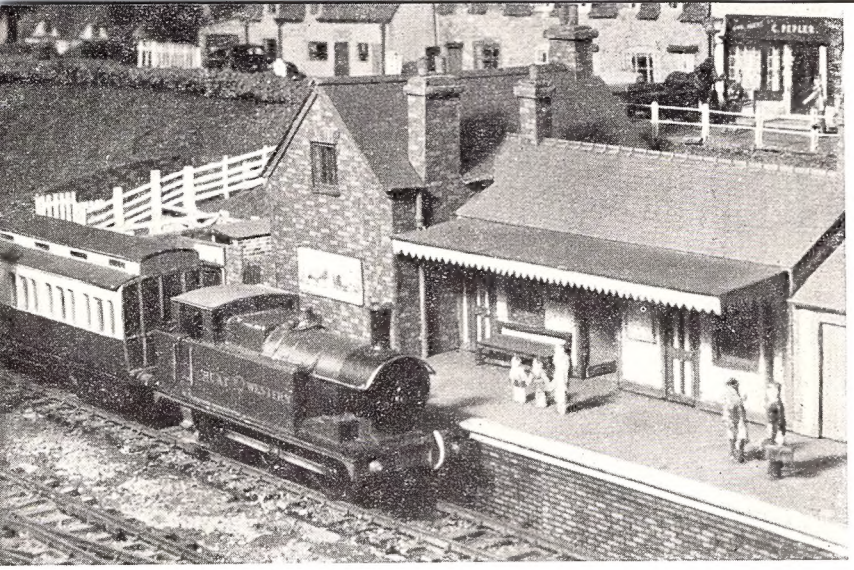
Now is the time for you to have your back numbers bound in the attractive blue official covers, for we shall be sending the first consignment to the bookbinders on February 4 and copies received after that date must inevitably suffer delay. It is therefore in your interest to send your sets to us by the end of the month at the latest. The charge is now 10/- per volume ; this includes notification of receipt; return postage, an index (except for Volumes 1 and 2) and in the case of Volume 5 an attractive coloured frontispiece. We can also supply, free of charge, copies of this year's index as soon as they are received from the printers. Please enclose a *large* 1½d. stamped addressed envelope marked " Index," together with the volume number required, in the top left-hand corner. We can still supply copies for Volumes 3 and 4 if required.

COVER PICTURE

Charles Oates adds some final details to the Old Mill Farm, which forms the scenic centre-piece of his 4mm. scale Chalke Valley Line.

(Photo : Salisbury Times)





Railway of the Month

THE HOLLY

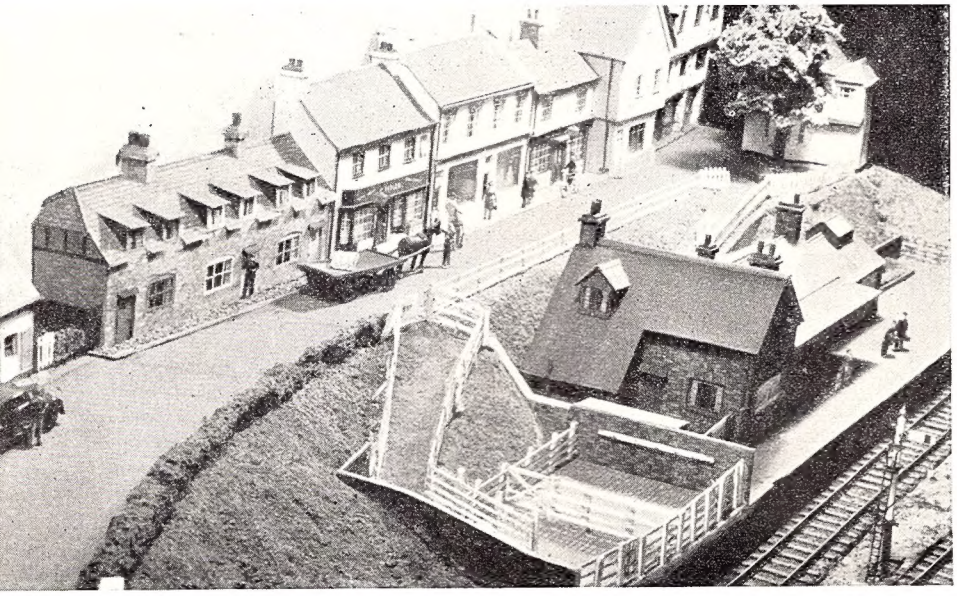
by J. Tootell

THIS is a short description of a 4mm. 16.5 gauge layout which I have called the "Holly Vale Branch Line." The total length of the single track is about twenty feet. In shape it is similar to the L-shaped layout No. 26 in the July 1953 issue of the RAILWAY MODELLER. Trains can be run throughout the full length of the track, but only one end is finished as regards the the scenic work.

Now I am always interested to learn how other modellers produce their work, so here is an account of how I produce mine. Readers will probably have deduced from the photographs that I am interested in the scenic side of things as much as in the actual railway work. First of all I must acknowledge my debt to Mr. J. H. Ahern, as all the scenic work is modelled according to his ideas and methods. In fact his two books, *Miniature Building Construction* and *Miniature Landscape Modelling,* have been my constant guides and companions as the work has progressed. The buildings are all made from cardboard, some from my own designs and some taken from Mr. Ahern's book.

The station building (a J.H.A. design) has wooden waiting room and offices and a brick-built station-master's house. The wood structure has ship-lapped walls, i.e. the bottom edge of each plank overlaps slightly the top edge of the lower plank. My "planks" are strips of postcard cut to size and glued on to a stout card foundation, each "plank" overlapping as described. This is rather laborious, but the effect is well worth the effort. The stationmaster's house is covered in Merco weathered brick paper. The "wooden" walls are finished in buff colour with light brown framing.

The shops fronting "Town End" are my own design—cardboard covered with manilla envelopes rough side out, to represent roughcast walls, suitably coloured and tinted. The row of cottages is a J.H.A.



Above: Hollybridge station with Essar 0-6-0 tank engine and a G.W. clerestory roofed coach.

Left: An "aerial" view of "Town End" shows that the buildings are of the frontage only type. Space, as usual, is at a premium.

VALE BRANCH

design. These are covered in weathered brick paper, which was given a very light wash of white poster colour, then odd bricks picked out in browns and fawn.

The Hollybridgians going about their lawful business in "Town End" are Slater's plastic figures. The horse and lorry are also made up from a Slater's kit.

Trees are made from loofah dyed dark brown, sprinkled with green-dyed sawdust and a twig to make the tree trunk. For all this scenic gluing I use Casco cold water glue, as it dries without any shine to it. Embankments are the usual brown paper glued to cardboard formers, the brown paper coated with a thin layer of Alabastine filler, painted and "grassed" with dyed sawdust. The "ground" in between the tracks is on the same idea. Pieces of thick cardboard are cut to shape to fit in between the various sets of track, coated with Alabastine, painted, and grassed with sawdust. This saves messing up the baseboard, then if you want to alter things in the future you scrap the cardboard "ground" and there is the baseboard clean and clear.

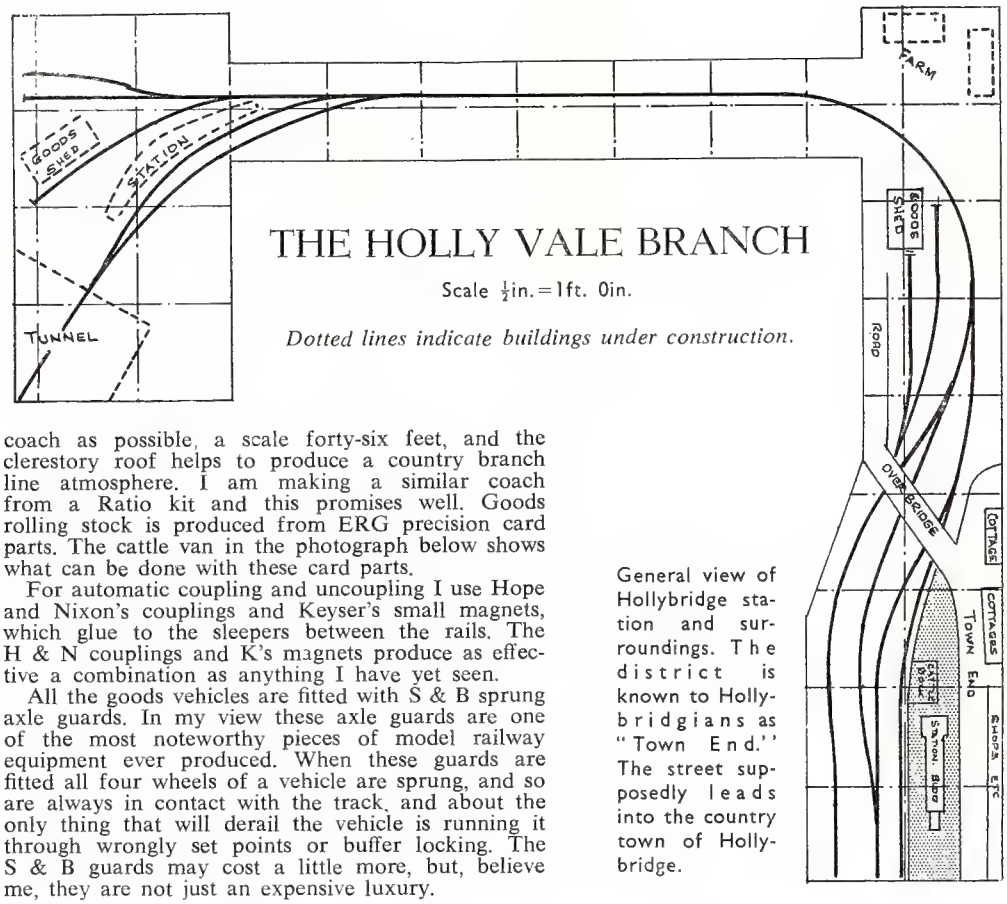
The railway trackwork itself is made from Evans's sleeper bases, Peco chairs and nickel silver rail, conduction being by two-rail method. The ballast is Peco, kept in place with a watery solution of Casco glue. The track is laid on thick brown felt to reduce noise. Having only the haziest ideas about electrical matters, I was very fortunate in having a friend, Mr. F. Brindle, who carried out this work for me.

Motive power is provided by two Essar 0-6-0 tank engines. My only criticism of these reliable mechanisms is that they are somewhat noisy, due to the spur gearing employed. I have an idea that a fibe gear wheel would reduce this noise considerably.

Rolling stock consists of one passenger coach, a G.W. clerestory roofed coach made up from C.C.W. parts. I chose this because it is as short a bogie

Above: Hollybridge station with train ready to start. Cattle dock in left foreground.

Right: "Town End" again, this time a "close-up" showing the buildings in more detail.



THE HOLLY VALE BRANCH

Scale ½in. = 1ft. 0in.

Dotted lines indicate buildings under construction.

coach as possible, a scale forty-six feet, and the clerestory roof helps to produce a country branch line atmosphere. I am making a similar coach from a Ratio kit and this promises well. Goods rolling stock is produced from ERG precision card parts. The cattle van in the photograph below shows what can be done with these card parts.

For automatic coupling and uncoupling I use Hope and Nixon's couplings and Keyser's small magnets, which glue to the sleepers between the rails. The H & N couplings and K's magnets produce as effective a combination as anything I have yet seen.

All the goods vehicles are fitted with S & B sprung axle guards. In my view these axle guards are one of the most noteworthy pieces of model railway equipment ever produced. When these guards are fitted all four wheels of a vehicle are sprung, and so are always in contact with the track, and about the only thing that will derail the vehicle is running it through wrongly set points or buffer locking. The S & B guards may cost a little more, but, believe me, they are not just an expensive luxury.

General view of Hollybridge station and surroundings. The district is known to Hollybridgians as "Town End." The street supposedly leads into the country town of Hollybridge.

How to Make

SIMPLE CONIFERS & POPLARS

by R. Stone

(Photos, G. Elam)

THE idea of making conifers from the snow-covered variety on sale at Christmas originated after buying two commercially produced trees. Upon examining their structure I noticed that it was very similar to the cheap Christmas variety, but covered with "foliage" instead of snow. I then proved to my own satisfaction that a dozen could be made in an evening, and if not up to the commercial standard individually (owing to the tricky job of shaping) they were very effective when placed in groups.

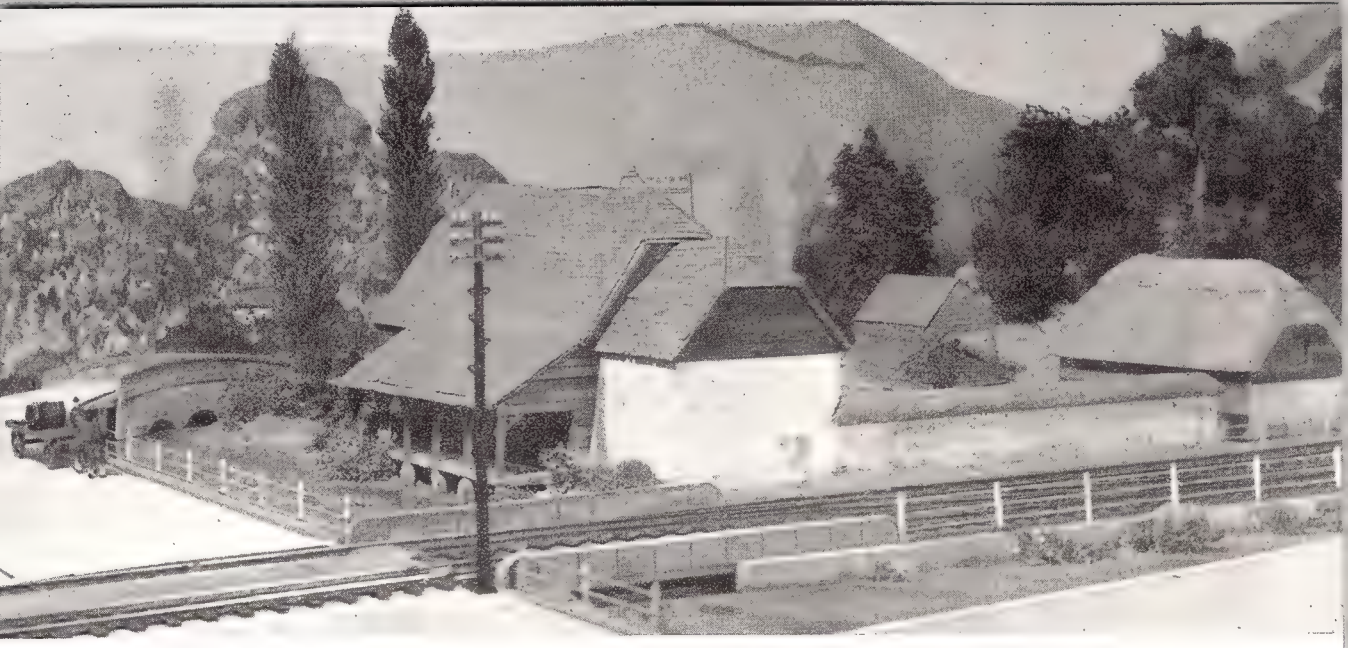
The system of production was simple. The first step was to get a fair amount of very fine sawdust, which was dyed in two shades of green with the ever-useful poster colour, and allowed to dry before attempting to use it. The next move was to cut into the outline of the actual Christmas trees with a sharp pair of scissors, destroying the symmetrical shape which is characteristic of these trees whatever their size, at the same time endeavouring to give something of the real conifer appearance when finally trimmed.

When reasonably satisfied with their now somewhat shaggy shape, I gave them a liberal coat of easy-running glue, working well in towards the trunk with a small stiff brush, and then sprinkled on the dyed sawdust generously so that every portion of the tree got a good covering. When the surplus was shaken off the result was even better than I had hoped; the addition of the foliage had transformed it into a really presentable tree, and when finally dry it hardened off into almost solid proportions.

The poplars were made from scratch, using wire and pipe cleaners, plus the dyed sawdust used in constructing the conifers. Three or four strands of fairly thin wire were twisted together to form the trunk, and the pipe cleaners cut into varying lengths from two to three inches to form the almost vertical growth typical of this type of tree. A small portion of wool was removed from each piece of cleaner in the centre, leaving the thin wire to twist round the trunk, thus producing two branches from each single piece of pipe cleaner.

I started at the top, gradually working down until the desired length of tree was obtained, and finally got the tree into shape by bending the flexible cleaners into their required positions. Then the whole thing was dipped into green poster colour, allowed to dry, and finally given a coat of dyed sawdust. The bottom of the trunk was finished off with glued and twisted paper, and painted greyish brown.

In conclusion I should like to say that the above two types of tree have filled a long-felt want on my layout, and in view of their low cost and ease of production may prove as acceptable to many readers of the RAILWAY MODELLER as they have to me.



How I Built

OLD MILL FARM

by Charles Oates

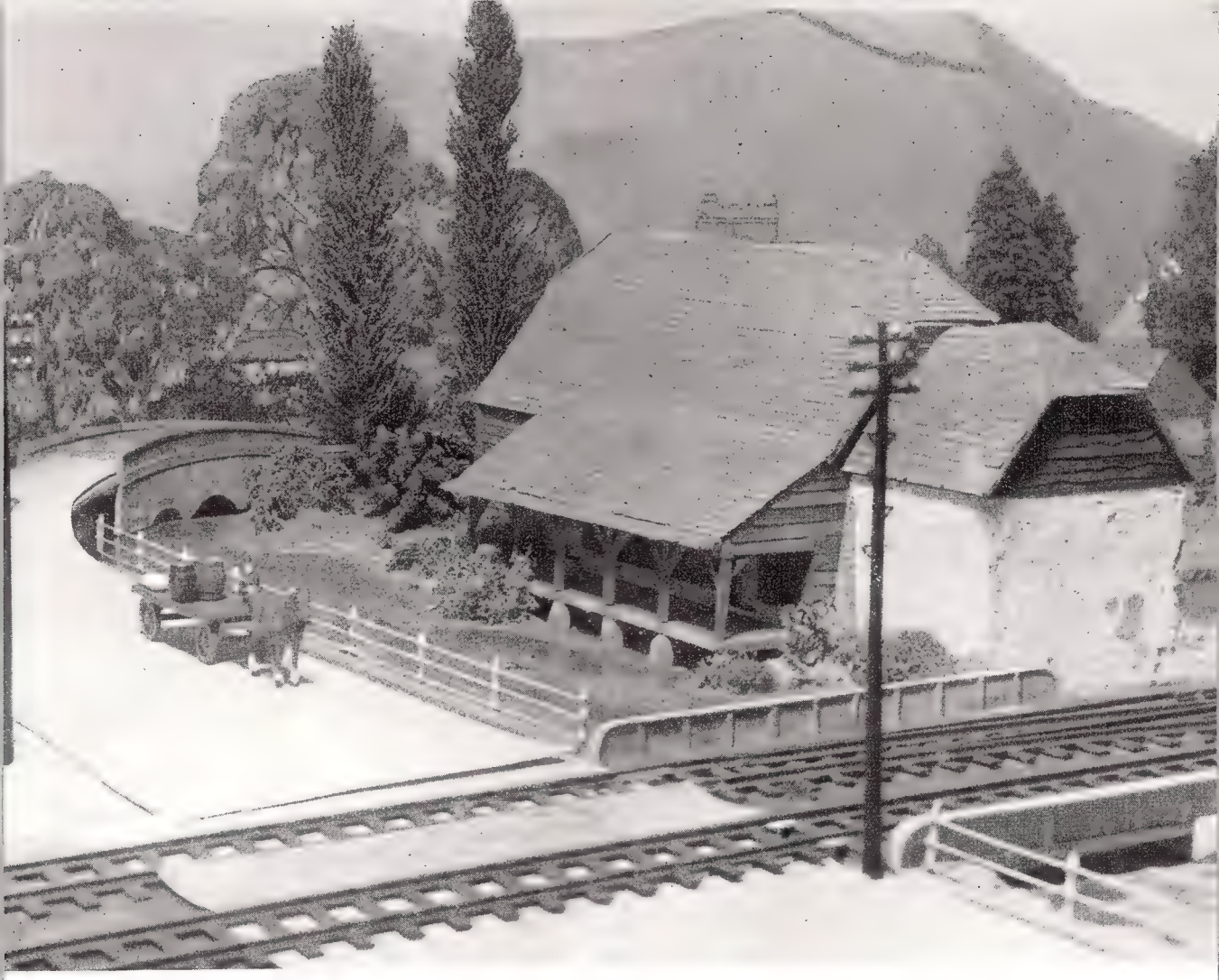
(Photographs by *Salisbury Times*)

The Chalke Valley Branch is an imaginary G.W. line from Salisbury to Blandford which passes, strangely enough, through the charming Wiltshire village of Coombe Bissett, in which its builder, Charles Oates, resides. As it was vital that the scenic picture should be absolutely correct, he started with the scenery and built the line round it.

WHEN I planned that my model railway should take the form of an imaginary branch line from Salisbury through Coombe Bissett to Blandford in Dorset, it became quite apparent that the focal point of the village in which I live was the Old Mill Farm. As I had lived there for some time it was quite familiar to me in all its details.

I decided, even before track laying was begun, that, in order to retain the true appearance of the whole scene, upon baseboards and supports being completed the farm should be built and completely finished to act as a key for the rest of the layout. Large photographs of the actual building were then obtained and a careful measurement of one wall was made, thus giving one known dimension. From this, scale drawings were made. The actual construction was commenced by cutting out from $\frac{1}{8}$in. balsa wood the base of the large barn, including the platform over the water. Next the sides and ends were cut, also from $\frac{1}{8}$in. balsa ; in fact the whole of the buildings were made from this material.

Ends and sides being mounted on the base, the roof members were then cut. The method of obtaining the characteristic drops in the ridges of these old buildings is rather difficult to explain either by diagram or description, but having decided upon the amount of drop necessary by tracing the same from a photograph, this contour was transferred to the two roof-side pieces, the edges being bevelled, pressed together with an adhesive, placed in position, and secured by rubber bands until dry. Sandpaper was then used to finish this joint off neatly. Now commenced the most trying task of all—tiling. The tiles were made from strips of cartridge paper, thirty-nine of them in all—the number is well remembered! Each of them was double the width of tile required. Tracing the contour of the ridge as a basis, these strips were then cut out with the contour gradually diminishing until, halfway down the roof, they became straight. This sounds an awful lot of bother, but the finished effect is immeasurably superior to any tile paper. During the cutting out, odd nicks made here and there along some of the strips gave the effect of the odd broken tile. These strips were then laid out carefully in correct order by the side of the model and transferred, one by one, to the roof, overlapping half in



This close-up of Old Mill Farm shows such attention to detail as weeds on the water, patched-up walls and strategically placed shrubs. However, we hope that the level-crossing on A354 is soon finished—it lies on our route to London !

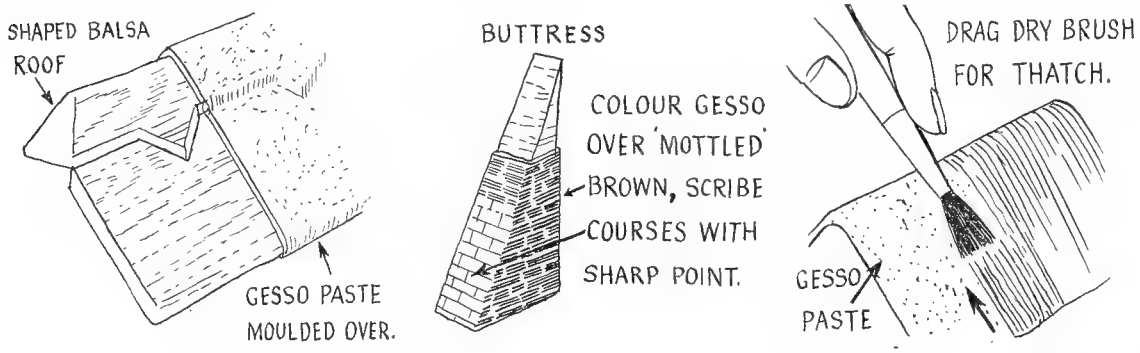
each case—starting, of course, from the bottom edge of the roof and finishing at the ridge. All strips having been cut a little longer than the actual length of roof, these were then trimmed off neatly with very sharp scissors. Some smooth manila string was then glued along all ridges to represent the ridge tiles.

The next step was the actual boarding of the whole of the larger part of the building and the upper half of the end building. The main building boards were stuck in place in the same manner as the roofing tile strips, each overlapping its predecessor. The roof elm boarding at the end of the smaller building had, of course, the characteristic wavy edges. All ends at the corners of walls were again trimmed off neatly with scissors. Next the supporting posts on the river platform were cut from stripwood and carefully glued in position, and the small brick bracing pier, cut from $\frac{1}{8}$in. balsa wood, was placed in position on the sloping wall of the smaller building. The riverside platform, having previously been scored to represent planking, had its edge surrounded by stripwood cut to represent the rough wood baulks. The next stage was to prepare the ground for the representation of the rough cob walls of the end building. As I have used the method to be described a great deal in the construction of other portions of the models, a full description may be of assistance. First the balsa wood base was roughed with coarse sandpaper and then a quantity of Gesso powder (obtained from the local art shop) was shaken into a saucer and mixed with a medium composed of seventy-five per cent water and twenty-five per cent stationer's gum until it was of the consistency of a rather gritty cream. This was then painted on to the surface of the wood to a depth of about $\frac{1}{16}$in. and left to dry, this taking about half an hour. These parts of the model were then ready for painting, which was done with ordinary poster colour, burnt sienna and black toned with

On this and the opposite page are two more views of Old Mill Farm, this time showing the general scenic setting. Note the combination of painted and semi-flat scenery in the background.

white being used for the tiles and patches of tile being touched in later in a very slightly darker tone to break up the flat appearance of the roof. All the woodwork was coloured a pale brown with burnt umber and white, care being again taken to break up the flat surfaces by very slightly lighter and darker planks. Brickwork on the small pier was obtained by coating the surface with the Gesso mixture, which, when dry, was coloured with mottled brick colours, the courses being then scratched with a sharp point, revealing the white underneath. The small patch of cement repair was added with yellow ochre. The model now began to look like its prototype except that the cob wall, although of the correct texture, looked startlingly new, so the unorthodox method of scraping soot with my forefinger from my studio chimney was resorted to, the finger being rubbed lightly across the wall, which was then rubbed with, I must confess, a rather dirty rag, giving the desired effect.

The thatched cob boundary wall was next added, the cob being treated as before, the actual wall base being two pieces of balsa wood stuck side by side. The thatching on the top of the wall was then shaped from a much thicker piece of balsa wood, treated with the Gesso mixture, but in this case a stiff brush was used and quick strokes from the ridge to the base of the thatch left lines which very effectively reproduced the actual appearance of thatch. When dry this was coloured with water colour to match the original. Having completed this portion, I decided to fix this part of the model *in situ*. The baseboard of my layout is composed of $\frac{3}{16}$in. hardboard overlaid with $\frac{1}{2}$in. softboard. The shape of the river (called the Ebble incidentally) was cut away from the softboard, and the bed of the river was covered with a layer of Alabastine filler and bird grit, sprinkled on its surface when wet, and then suitably coloured with patches of gravel and weeds flowing in the direction of the current. Above this, about an eighth of an inch higher, was fixed a sheet of perspex, the weeds on the surface being represented by painting on patches of gum sprinkled before drying with fine sawdust dyed "weed" green, with little patches of dried moss to represent the taller weeds. The resulting effect gladdened the maker's heart when visitors continually put their fingers into it to test if it was real water! The crowning tribute was given by one

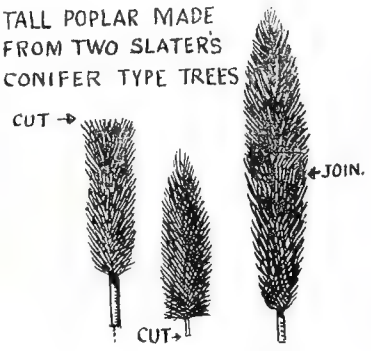

SHAPED BALSA ROOF
GESSO PASTE MOULDED OVER.
BUTTRESS
COLOUR GESSO OVER 'MOTTLED' BROWN, SCRIBE COURSES WITH SHARP POINT.
DRAG DRY BRUSH FOR THATCH.
GESSO PASTE

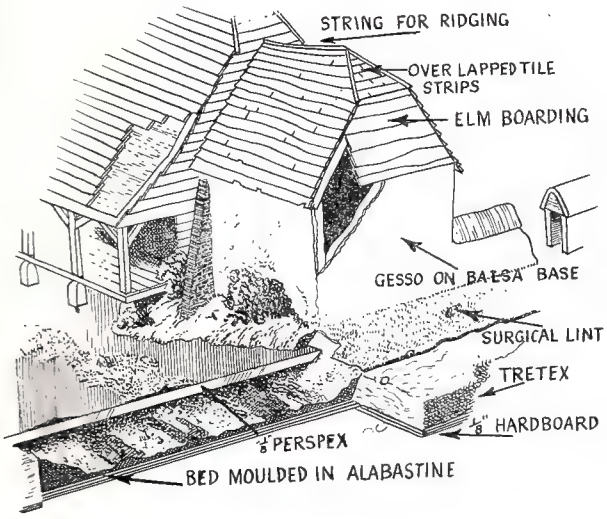
of the household Siamese cats, who tentatively tried to dip his paw into it, his resultant expression being worth seeing.

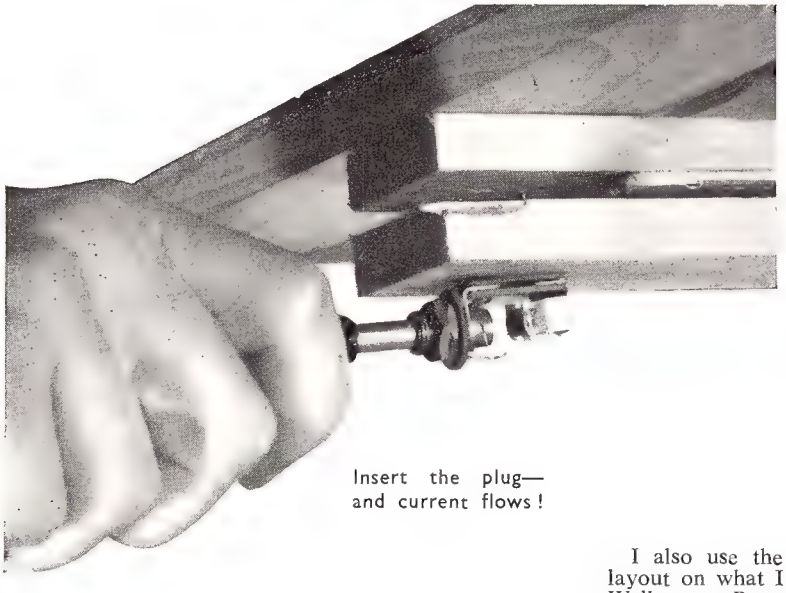
On the completion of the river, the rick stones supporting the riverside platform were carved from wood, stone coloured (not forgetting the patches of green moss), and placed in position. The bushes were made from green florist's moss and stuck in position. The remaining buildings were now commenced, using the same methods of construction as before. The completely thatched roof of the outbuilding was sandpapered to contour after being stuck in position, care being taken with the capping thatch, which was carved from a separate piece. The lacing holding the thatch in position was painted on top of the first layer of Gesso, when dry, with a thicker mixture of Gesso applied with a fine-pointed brush. The Gesso powder has the property of swelling or rising as it dries and so the lacing, when dry, stands out in quite high relief. The outbuildings were then coloured in their respective colours, not forgetting to mottle the thatched roofs carefully and apply patches of green to represent moss and specks of white where the birds nest in the eaves—no comment. The whole of the buildings were then stuck to the softwood base and grass surrounds composed of surgical lint were applied, coloured when in position with poster paint.

This lint successfully achieves the effect of the walls being sunk into the grass. Afforestation was completed with the aid of trees supplied by Slaters and Taylor & McKenna, the two tall poplar trees each being composed of two of Slaters' trees carefully stuck one upon the other.

At this stage track laying became the order of the day, the remaining details of the Old Mill Farm not being added until this was complete. The girder bridge sides were then added, the bridge being made from balsa wood covered with a smoother Gesso mixture and painted to represent stonework. The trees and church in the background were painted on a piece of wallboard cut out and mounted in position in front of the background, which was painted direct upon the studio wall. The Chalke Valley Branch scenic work has progressed very rapidly from this small beginning and the methods tested in the building of the model under description have been used throughout and have proved extremely satisfactory.







Insert the plug—and current flows!

PLUG AND JACK SWITCHES

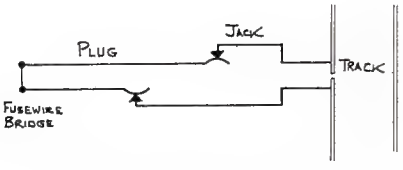
by M. W. Broom

IT was about the time I changed over from proprietary track to scale that I saw an article by Mr. Freezer in the RAILWAY MODELLER about electrical arrangements for layouts fixed to a baseboard. In the article was a series of diagrams showing the various types of section switches, among them the miniature tumbler (1/- at Woolworths), and I duly invested in half a dozen. I later found that they were not as robust as I needed.* Contacts would not meet after a time, and two dollies broke off. So I turned to A. F. Bulgin and Co.

Bulgin's make telephone plugs and jacks among other things, and it dawned on me that if I could get a supply I might furnish myself with a reliable system of isolating switches and a safety device as well.

Bulgin jacks, type J.2, with solder tags, retailing at 1/9 apiece, are screwed under the baseboard and connected across my section gaps. Plugs, type P.38 (3/- each), have their terminals bridged inside with fuse wire). It will be seen that when the plug is pushed home in the jack the section beyond is energized. It will also be seen that if several jack-isolated sidings are put under the control of one plug, then only the siding where the plug is can have anything moving. You cannot leave a switch on by mistake and have a loco go over the edge. This is the most foolproof safety device I have yet found, as even the live siding is perfectly obvious since the plug sticks out under the baseboard.

* I warned you!—C.J.F.

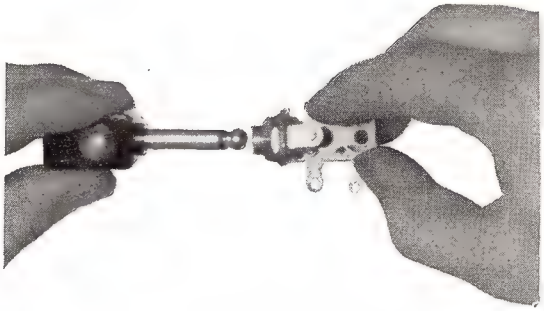


Basic circuit for plug-and-jack switch.

I also use the plug-and-jack method to feed my layout on what I call the block isolator system. The Wellsmeare Branch is too small for cab control, split potential or any other complex method, but at the same time it is very handy to be able to operate on two sections of the main line alternately. To do this I have divided the layout into three circuits, each separated from the others by a jack-controlled gap, closed with the bridged plug as above. Each circuit has its own feed point (plug and jack, of course!).

The result of the foregoing arrangement is that I am able to plug in my power unit to any of the feed points, close the block isolators and feed the entire layout, *or* feed any two adjacent sections and leave the third dead, *or* feed any one section independently of the other two. This means that two locos can operate on the same track alternately, and, for example, marshal a train too long for the station loops.

The other advantages of the system are, of course, the foolproof safety device mentioned above and the fact that I can standardize my switchgear, since plugs and jacks are equally suitable for feeds, isolators and section switches. One of the block sections, the window span, with its own feed point, forms a detachable demonstration layout, and in addition the portable power unit is handy if I want a 12-volt D.C. supply for any other purpose than model railways.



The plug and jack.

RAILWAY ARCHITECTURE

by R. W. G. Bryant

It is probable that many of the best examples of Victorian architecture are to be found on or about our railway system, worthwhile subjects for the keen modeller. There are certainly plenty of prototypes to choose from!

The original terminus at Lytham of the Preston and Wyre Railway's branch from Kirkham—a fine prototype for a medium-size station building.

I HAVE lately been dipping again, with renewed pleasure, into a book that may not be as well known to the model railway fraternity as it deserves; I refer to Christian Barman's *Introduction to Railway Architecture*, published by Art and Technics in 1950. Mr. Barman is uniquely qualified to write such a book, having risen to his present position as chief public relations officer to the Transport Commission by way of a distinguished career in architectural journalism.

This little book is a succinct and masterly survey, copiously illustrated, of the influences which helped to mould the distinctive style of railway buildings in the formative years of the nineteenth century. It deals not only with the notable masterpieces such as Newcastle Central, Euston and Kings Cross, but also with smaller country stations. Many of these, for example on the Brighton line or on the old North Midland line between Derby and Leeds, were designed by architects of the first rank. Some of these original stations have disappeared in the course of subsequent changes of layout. Others stand near the present station, as at Ambergate and Lichfield. Others survive, in daily use. But all have left their mark on the development of the typical British station. Apart from the specific details of individual stations, the great value of this book lies in its treatment of the general principles which underlie the particular character and flavour of our stations. A British wayside station is vastly different from its continental or American counterpart, not only in its layout and specifically "railway" features, such as signals, but also in the style and disposition of its buildings. Mr. Barman approaches this fact with the eye of an architect, therefore what he has to say is refreshing and instructive.

In the very early days of railways the notorious "Gothic revival" of Victorian times had not got into its stride. The railway builders were feeling their way, conscious that they were introducing new and unfamiliar patterns into the landscape. In civil engineering they owed much to the canal builders, but the architectural needs of railways are not like those of canals. In their buildings, therefore, the railway architects tried hard to utilize traditional forms, and to follow the code of architectural "good manners." It is worth noting that the North Midland Railway paid the architect responsible for its stations the (then) enormous salary of £1,200 a year. Classical forms were frequently used in the early days. Of these, the best known and most important example is Euston, with its great portico. But there were others. The original classical terminus at the Birmingham end of the London and Birmingham Railway is now Curzon Street goods station. My photograph shows a charming classical terminus, on a much smaller scale, at Lytham in Lancashire. This was built in 1846, but ceased to be used for passenger traffic when the line was extended round the coast to Blackpool. This little gem of a building now serves as a goods shed, but is scheduled under town planning powers as a building of architectural or historic interest.

Later on, "Gothic" reared its ugly head, and of this St. Pancras is the greatest example. Whatever may be thought of its aesthetic merits, one must allow that it has style and character. It is in the little country stations, however, that "parsonage Gothic" is least out of place. Our railways remain so essentially Victorian in so many ways that the most Victorian of their small stations now seem to fit happily into the landscape. Has not Emmett acknowledged this in every single one of his "dream" stations? It is the small country station that has best stood the test of time, perhaps because it has not had to meet traffic requirements beyond those for which it was designed. But Barman shows how all its features developed naturally to meet practical needs, even down to that essential feature of the British station the "veranda" awning, with its endless variety of detail in cast-iron pillars and wooden valances.

Stations are a study in themselves. So many good model railways are spoilt by buildings that are stereotyped and nondescript, and I can recommend Mr. Barman's book, not only for its own interest but also as a guide for those modellers who seek to be as fastidious about their stations as about their rolling stock.

Building an "O" Gauge

Ex-S.E.C.R. PASSENGER CATTLE WAGON

by E. B. Trotter

The term "passenger cattle wagon," coupled with the initials S.E.C.R., might conjure up visions of packed suburban coaches, but the explanation is, as usual, prosaic, for it describes a vehicle that can be used on passenger and parcel trains.

THE accompanying drawing shows an ex-S.E.C.R. passenger cattle wagon. The interesting points in the construction of such a vehicle were the slots in the bottom of the sides, requiring the floor to be of not more than scale thickness, and the large amount of body framing and louvres on the sides.

The sides and ends were made from two layers of $\frac{1}{16}$in. plywood. The outer layers of the sides were made the full length of the vehicle, and overlapped the ends at the corners. The lower part was cut to form the body framing and the louvres were cut in the upper part with a chisel. The two recesses marked on the drawing with chain-dotted diagonal lines, which in the actual vehicle allow for the sliding of the louvred ventilator panels, and the slots in which the movable partition slides were also cut in this layer, and the planking on the doors was scribed.

The inner sides were cut $\frac{1}{4}$in. shorter than the length of the body to allow for the overlapping of the ends. Slots were cut as shown in the drawing and the planking was scribed on. Louvres were cut in the positions where the outer sides were cut away to form recessed panels.

The inner and outer sides were glued together. It should be noted that these are "left" and "right" hand due to the slots and notches for the sliding partition being at the same end on both sides of the vehicle and not diagonally opposite.

The ends were built up in much the same way as the sides, but were made deep enough to form the headstocks. The portion forming the headstock was $2\frac{7}{32}$in. wide but the remainder of the ends were $\frac{1}{8}$in. narrower to allow for the overlapping of the sides. The outer ends were cut to form body framing, and the inner ends scribed to represent planking. After gluing the two layers together they were drilled for buffers, couplings, and vacuum pipes.

Solebars were made from $\frac{1}{4}$in. x $\frac{1}{8}$in. stripwood $4\frac{15}{16}$in. long, and as the floor was to be rather thin a piece of 1in. x $\frac{1}{4}$in. stripwood $1\frac{3}{4}$in. long was glued and pinned between them at the middle of the frame to make it rigid and provide a fixing for the brake gear. Ten-ton wagon type axle guards were used, as these are very similar to the S.E.C.R. type, with axleboxes with pull-out keeps actually fitted to these vehicles.

The floor was made from hard cardboard 1mm. thick, cut $4\frac{15}{16}$in. x $1\frac{31}{32}$in. and glued to the solebars and the crosspiece, and the body fitted over it and glued. A sub-roof was cut from wood $\frac{1}{4}$in. thick, to fit inside the body, and the top planed to the correct curvature. This was glued and pinned inside the body and the roof, made from cardboard, glued on top of it.

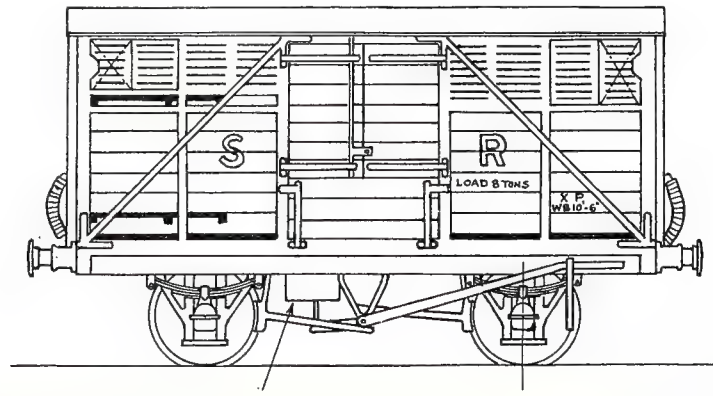
The brake gear was made mainly from tinplate and wire, and the vacuum cylinder from $\frac{1}{2}$in. diameter dowel glued to the crosspiece with a panel pin driven in to form the piston rod. The "V" hangers were cut on each end of a strip of tinplate, the "hangers" were bent down at right angles and the middle of the strip was screwed to the 1in. x $\frac{1}{4}$in. crosspiece. The brake blocks, brake block hangers and push-rods were made in one piece and threaded on to the brake shaft. The block hangers were soldered to panel pins driven into the edge of the crossbar as shown in the cutaway drawing. Brake levers and lever guards were cut in one piece, the end of the lever was soldered to the brake shaft and the lever guard soldered to the axle guard. The lever fulcrum on one side was formed in the same piece as the lever and had a tab on it, which was bent at right angles and screwed to the crosspiece.

The body strapping was cut from thin cardboard (similar to postcard), and where this spanned a space between body framing members a small piece of similar cardboard was cut to fit behind it, and glued, so making the strapping stiff enough to prevent bending without filling the space between it and the planking. Hinges were made from cardboard, and the door bolt from cardboard and thread. The "T" end stanchions were made from stiff paper, two angle sections being made and glued back to back on the end diagonals.

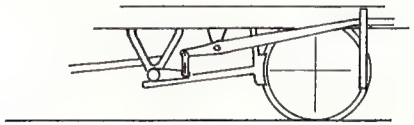
These vehicles, being used on passenger and parcel trains, had the body including the ends of the headstocks painted green, with yellow lettering. The ends, solebars and running gear were black.

Leading Dimensions

Length over headstocks 19ft.
Wheelbase 10ft. 6in.
Width over body framing 8ft. 6in.
Planking inset 3ft.
End stanchions 5ft. x 3in. "T" sections.



Vacuum cylinder this side.

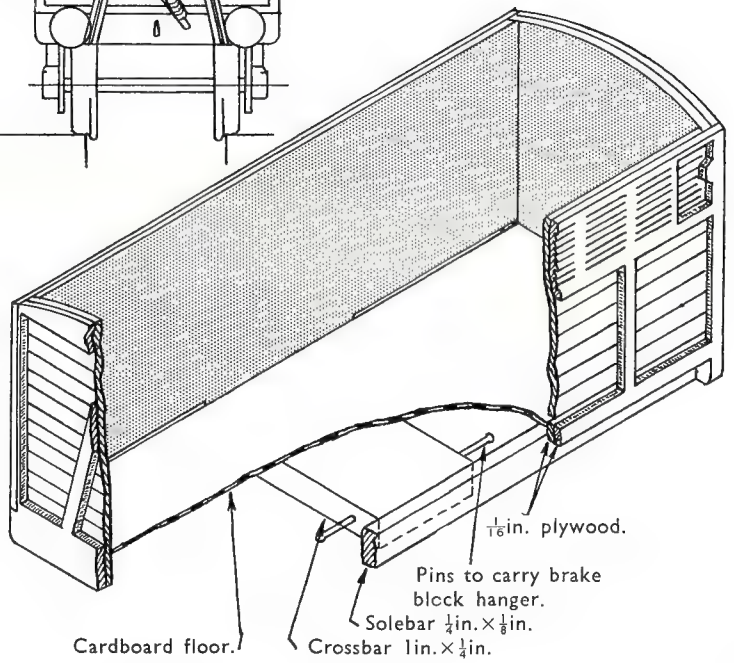


Brake arrangement other side.

Ex-S.E.C.R. PASSENGER CATTLE WAGON

Drawing by E. B. Trotter

Scale 4mm. = 1ft.

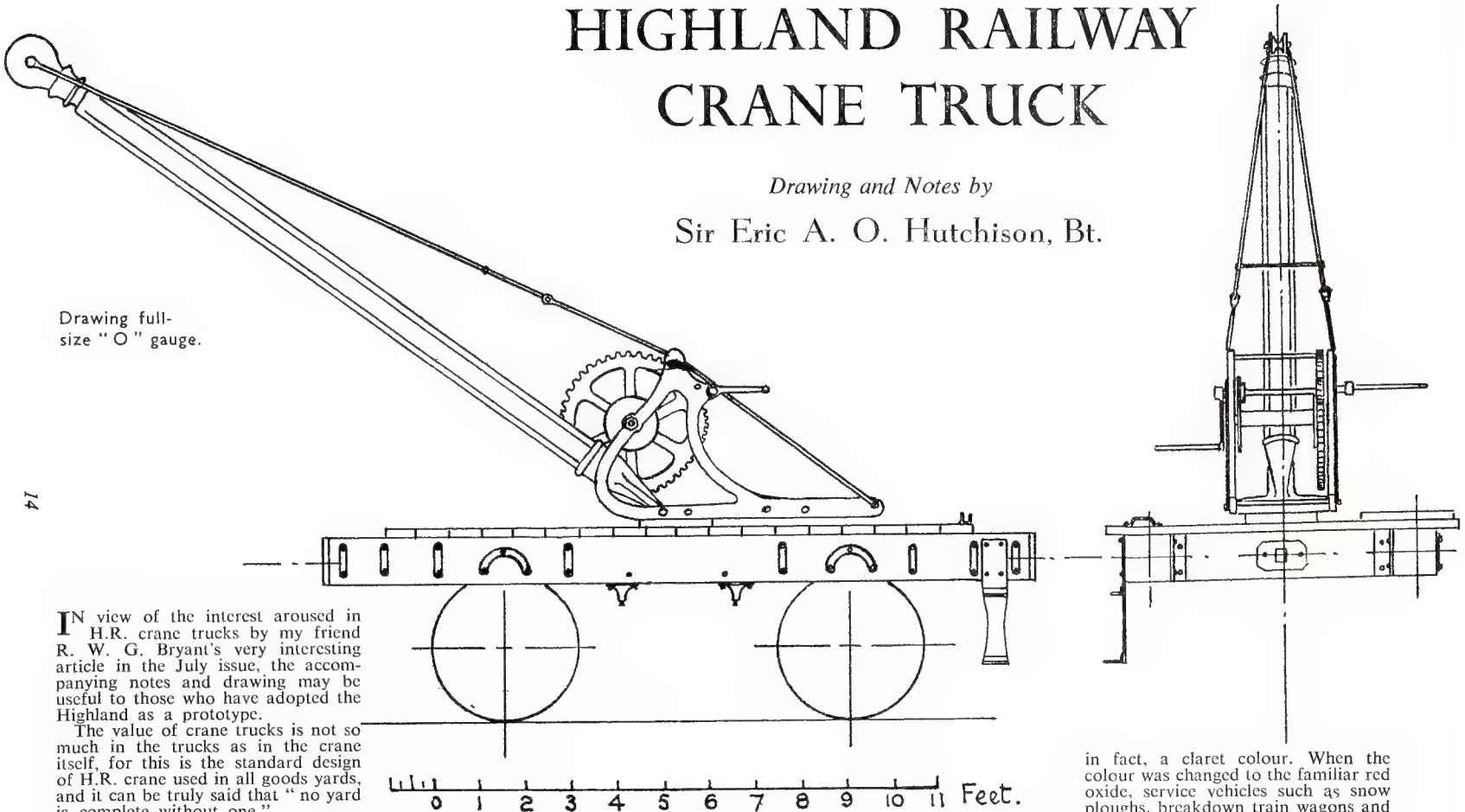


HIGHLAND RAILWAY CRANE TRUCK

Drawing and Notes by

Sir Eric A. O. Hutchison, Bt.

Drawing full-size "O" gauge.



IN view of the interest aroused in H.R. crane trucks by my friend R. W. G. Bryant's very interesting article in the July issue, the accompanying notes and drawing may be useful to those who have adopted the Highland as a prototype.

The value of crane trucks is not so much in the trucks as in the crane itself, for this is the standard design of H.R. crane used in all goods yards, and it can be truly said that "no yard is complete without one."

The trucks may be 4- or 6-wheeled, and I suspect that in many cases they were made up from old wagons from which the bodies had been stripped. Anyway, the one illustrated in the drawing first saw the light of day at Needlefield (the C. & W. shops adjoining Lochgorm) in 1874. As will be seen, it is a dumb-buffered vehicle carrying a step and grab-iron at one corner, and on the floor at the same end, but on the opposite side, is a short length of angle-iron, probably for the convenience of the operator on the handle on that side. The projections below the solebars are for the attachment of lashing chains.

Although the crane has a fixed jib (which, incidentally, is of timber and octagonal in section), this can be lowered for travelling by unbolting the fork joints in the stays. This was, however, very seldom necessary, for the vehicles were intended for use within yard limits only. A counterweight box can be attached to the two backward projections of the crane frame if required. Wagon axleguards, grease axleboxes and spoked wheels are fitted.

It will be recalled that in the first years of the century H.R. goods stock was painted a dark maroon—almost, in fact, a claret colour. When the colour was changed to the familiar red oxide, service vehicles such as snow ploughs, breakdown train wagons and so on continued to be painted claret, with ironwork in black. These cranes would therefore have a claret jib with black sockets at either end and the rest of the crane black. The wagon component was claret, with black ironwork. No lettering, number or weight was carried, since the vehicle never left its own yard, but it would be described as "the Dingwall crane," "the Aviemore crane," and so on.

Two old Great Western coaches at Dymock, between Gloucester and Ledbury.

Old coach body on the platform at Turvey (Midland Railway), now used as a goods shed.

LINESIDE ROLLING STOCK

or

A NEW USE FOR OLD COACHES

by C. Gordon Watford

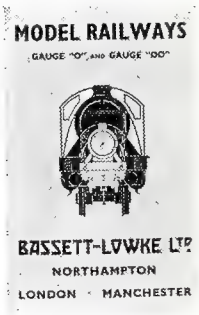
THE difference between the good layout and the outstanding layout, from the scenic point of view, lies in the attention to small details. One such small detail in a goods yard is an old goods van body or coach body, which is generally raised on trestles about two feet off the ground and is invariably in a battered condition. The three photographs illustrate typical rolling stock bodies, and would make most attractive models, as well as using up any old bodies no longer deemed worthy of the layout!

Mink " A " body on trestles at Baschurch, G.W.R.

CATALOGUES RECEIVED

(NOTE.—*Prices include postage where applicable*)

BASSETT - LOWKE. Gauge " O " and " OO " (2/-).



This catalogue marks a welcome return to the old standard of Bassett-Lowke catalogues—chock-full of things to interest the enthusiast. The " O " gauge section offers a wide variety of parts for the modeller, in addition to the well-known ready-assembled B.-L. locomotives, rolling stock and permanent way, and the " OO " section is devoted almost entirely to an extensive illustrated catalogue of popular proprietary equipment.

HAMBLINGS. General (1/3).

Hamblings specialize in " OO " gauge to B.R.M.S.B. standards, and in this catalogue list a wide variety of parts for the home constructor as well as assembled two-rail track, coaches and locomotives.

SCALOH/C.C.W. (1/-).

This is the first catalogue of Scaloh components to be issued since C.C.W. took over distribution. It is an excellent production, giving details of the " O " gauge equipment now available from C.C.W., including track, wheels, axleguards and bogies, and a brief summary of " O " gauge C.C.W. kits fully described in the C.C.W. catalogue reviewed last month.

EXLEY (1/9).

The name Exley is synonymous with fine coaches, which, together with the " O " and " OO " accessories produced by this firm, are fully described and illustrated in this catalogue.

BOOK REVIEW

The A B C of London Transport Railways. S. A. Newman (Ian Allan, 2/-).

Electric multiple-unit stock is rarely homogeneous, and on the London underground railway there are many types of stock in current use, all clearly differentiated to the keen observer. However, due to the subtleties of the subject, it is advisable to differentiate more clearly between classes of multiple-unit stock than steam locomotives, and therefore this book devotes over half its pages to a careful summary of the classes now running.

No mention is made of the re-classification of pre-1938 District stock as Q, with the year of construction as a suffix, a point that was very clearly brought out in the previous edition. But this is a minor point, and we can heartily recommend this booklet to all Londoners and visitors to the capital as an invaluable companion to underground travel.

Layouts for the Modeller. No. 62

THE POSSIBILITIES OF THE REVERSING LOOP

by J. D. McLean

THE branch lines which were described in the September 1953 issue mentioned the designs shown there as "a welcome change from the conventional hidden loops." I wonder, however, if the possibility of the reversing loop is fully realized in the effort to get "maximum operability with minimum expense," which has been my aim ever since I thought of a model railway fifteen years ago.

The attached diagrams show two simple layouts, the larger of which has only ten pairs of points, probably the easiest way of quickly estimating the relative cost of model stations.

The basic facilities which a station might have are the following:

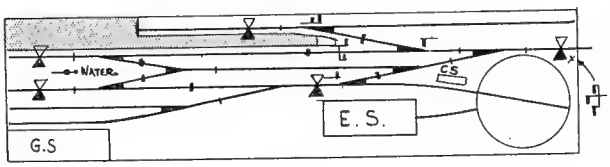


Fig. 1.

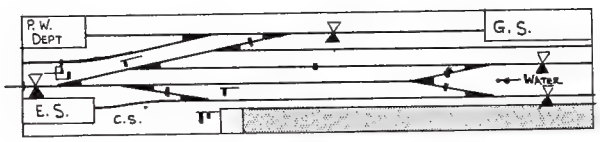


Fig. 2.

Scale for both drawings: ½in.=1ft. for "OO" gauge.

1. For passengers.
2. For goods.
3. For crossing or overtaking.
4. For running round.
5. For storage of carriages.
6. For shunting and marshalling goods trucks.
7. For turning, fuelling, maintaining and housing locos.

It will be seen in diagram 1 that facilities 1, 2, 4, 5 and 7 are obvious. Facility 3 is probably altered in this instance to that of putting a train away before the next train arrives, which is easily performed.

Facility 6 is performed on the main line and wagons are marshalled by shunting into various sidings.

In diagram 2 the restrictive width rules out a turntable, but such a place could well be served by tank engines or tender engines running tender first.

Having thus designed a station in a logical manner (apparently a most unusual event!) we consider the main line, and the obvious solution is the overworked reversing loop. But having made a portable and easily disposed-of station, we now make a portable and equally easily disposed-of balloon loop. It should be made in sections of similar size to the station and the resulting three or four pieces could quite easily be stored on top of the crystal cabinet or the piano, which of course dictated the size of the station in the first place.

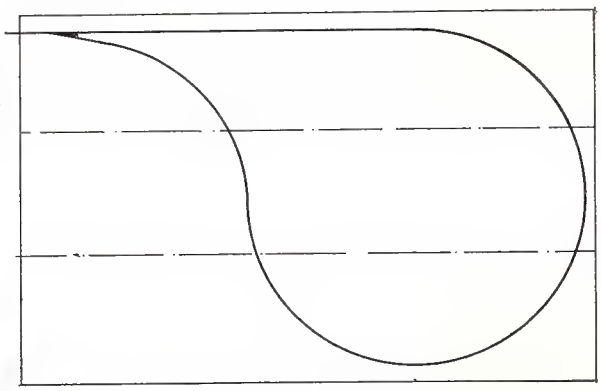


Fig. 3. Reversing loop mounted on three rectangular baseboards.

There is probably nothing really new about this idea and it might upset the scenics, who will be horrified by the great piece of loop so close. But to the timetable enthusiast there is a station and a bit of main line which can be stored on top of the wardrobe in that room in the digs. This is, of course, a single-line branch and would then have to be Macduff or Banff or Seaton or Norwich (City). But with a little juggling the main line could be doubled and then it could be Horwich, Royton or Middleton.

All that is needed then is a copy of the appropriate working timetable secured in the usual stealthy manner. The fact that this is *not* the layout of Horwich does not prevent the Horwich timetable being used (with a little adjustment because of the loop's limitations), but saves the fag of thinking up just what time a train is required.

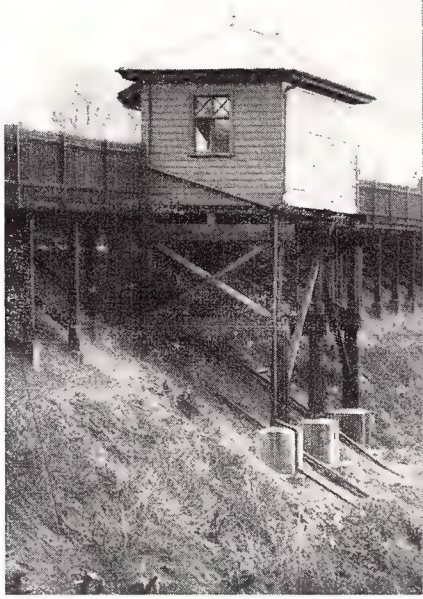
Prototype of the Month

MIDDLEWOOD

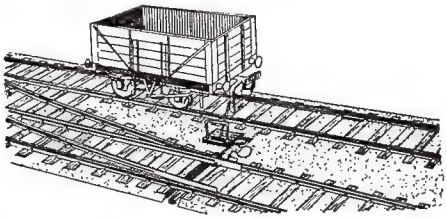
Photographs by Alan H. Bryant

The high and low level stations at Middlewood are almost at right angles. Middlewood Higher lies on the old Great Central and North Staffordshire joint line, Middlewood Lower on the L.N.W. branch from Manchester to Buxton. All buildings are of wooden construction.

The upper photograph shows the combined ladies' room, booking office and gents' toilet on Middlewood Lower up platform. Note particularly the oil lamps in cases on ladies' room and telegraph pole. Left centre we have the high level booking office and waiting hall. Below left is the Lower down side waiting room, with the main high level buildings behind, while to the right the lighter coloured hut is the booking office. Our final photograph shows the construction of the high level platforms—a common arrangement where a small station is built on an embankment.

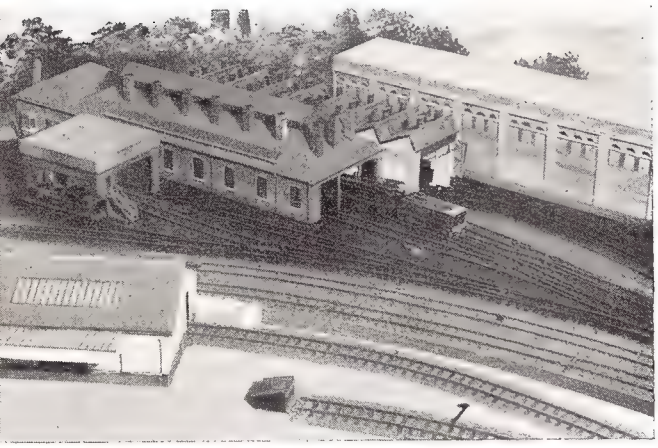


Peco Topics



ABOUT INDIVIDULAY

By S. C. Pritchard



This track on J. K. Nelson's famous "HO" gauge L.N.W. layout was laid throughout in bullhead Individulay. This photograph shows the locomotive running sheds.

THE Peco-Individulay range of track components provides the modeller with all he needs to construct perfect miniature permanent way, either in bullhead or flat-bottom track. We do, however, feel that the very extent of the range may bewilder beginners, and so these brief notes are intended for those about to begin constructing their own track.

First, why, when ready-assembled Pecoway is available so cheaply, need one bother? Some enjoy track construction for its own sake, others for the extra realism that can be imparted with Individulay components. Many do so for reasons of economy, and last, but by no means least, there are those who require special points that cannot be obtained ready made.

Individulay track falls into three main groups, spiked flat-bottom rail, flat-bottom rail with baseplates, and bullhead rail with chairs. We shall deal with each in its turn.

SPIKED FLAT-BOTTOM RAIL

This is undoubtedly the simplest and cheapest form of Individulay. The *New* Peco Spike combines a small scale-sized head with a stout, well-pointed square body. It is important to lay spiked track on softboard or softwood baseboards, into which the spikes can be easily pushed with the aid of a small pair of pliers. For economy, spikes need only be inserted every two inches or thereabouts, the intervening sleepers being lightly glued down.

The scale flat-bottom rail is suitable for use with B.R.M.S.B., N.M.R.A., Hornby Dublo and Rivarossi standards, but for other proprietary equipment with deeper flanges the special deep-section Hi-Iron rail should be used.

FLAT-BOTTOM RAIL WITH BASEPLATES

This form of Individulay has the added realism of scale baseplates, while still being easy to lay. The fibre baseplates are slid on to the rail and glued in place with Seccotine. It is very similar in appearance to Pecoway ; only the fact that Pecoway sleepers rest on the ballast units, whereas Peco-Individulay sleepers are sunk into ballast units, shows the difference. If flat-bottom rail and baseplates are used in conjunction with the special $\frac{1}{32}$in. thick sleepering and ballast underlays, special points can be constructed to match the Pecoway range.

The tied metal baseplates used in the Pecoway points and point packs are also suitable for use with Individulay tracks. They provide for extra strength at points of great strain, for example at baseboard edges on portable layouts and at lifting sections on permanent systems.

BULLHEAD RAIL WITH CHAIRS

Bullhead Individulay offers the last word in realism and is modelled on pre-nationalization practice, but it does not provide sufficient clearance for over-scale flanges and is *thus suitable only for wheels to strict B.R.M.S.B.* standards. Peco bullhead Individulay is not as simple to assemble as the flat-bottom track, and is therefore less suitable for beginners, but construction is a pleasing task for the more experienced modeller.

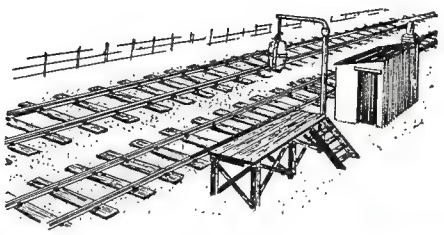
TRACK PACKS

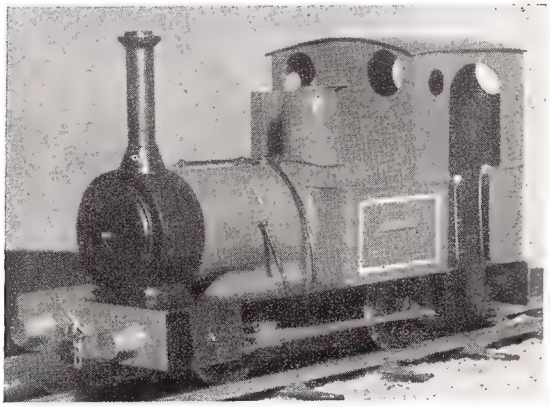
Special track packs are provided in all methods, containing sufficient material for one yard of track, together with full instructions and, in the case of the bullhead pack, the special chair-closing tool. We recommend that one of these packs be purchased as a start, rather than odd parts without the essential instructions.

We shall, later this year, be publishing details for constructing flat-bottom track with the new Peco spikes, which can also be used to secure Pecoway. The spikes will be sold in packets of one ounce, price 2s. 4d.

READERS' LETTERS

This space is reserved for the free exchange of readers' ideas and opinions





" Dolgoch " in 14mm. scale. (See " Dolgoch.")

A striking view. (See " Tunnel Photographs.")

" DOLGOCH "

I enclose herewith a photograph of Talyllyn Railway's 0-4-0 tank locomotive " Dolgoch " for inclusion in " Photo Features " if considered worthy.

The model is built to a scale of 14mm. to the foot —for standard " O " gauge trackwork.

This model is a first attempt, and is built mainly from scrap—wheels, buffers, smoke-box door and nameplates being the only items purchased. No motor has yet been fitted.

Bacup. D. SCHOFIELD.

TUNNEL PHOTOGRAPHS

I was interested to see in a recent copy of the RAILWAY MODELLER, illustrating an article by Mr. J. L. Ray, a photograph which appeared to have been taken from inside the tunnel on his garden layout.

I enclose a photograph, taken some years ago by myself, of a garden layout in Kent, although in this case the gauge was somewhere about 3in., and was not, I believe, a standard British modelling scale. I think it is quite clear that photographs of this nature give a really good impression of *realism*, a point too often overlooked by some photographers.

Although the original was only of small size, I have had it enlarged, as you may be interested in publishing it.

Sidcup. A. J. NELSON.

CONVERTING A TRI-ANG 0-6-0 TANK —OR AN EASY JOB FOR THE BEGINNER

On reading the excellent letter of Messrs. Mackenneth and Martin (RAILWAY MODELLER, March 1954) on the Tri-ang 0-6-0 tank, I was impressed by the qualities they enumerated ; and when some time later the opportunity arose of acquiring one second-hand I did not hesitate. However, while agreeing with your correspondents on the value of these jobs, I soon became dissatisfied with the appearance of the toy wheels ; furthermore, their " pick up " quality in combination with steel track was not altogether satisfactory. I therefore decided to convert to scale wheels. As this proved a simple, but interesting, task, and one which may well appeal to those who have recently joined the " fraternity," I will proceed to " give the works."

1. Remove loco body by releasing screw in funnel, prise off wheels and unscrew the three frame-holding screws, thus releasing the side frames.

2. The original axle bearing in the side frames will be found to be a tight $\frac{5}{32}$in. diameter ; this is enlarged slightly by drilling with a $\frac{5}{32}$in. drill and a brass tube of $\frac{5}{32}$in. outside diameter and an inside diameter of $\frac{1}{8}$in. can be fitted. A tight fit is required for the front and rear bearings, but in the centre bearing the tube must be able to turn easily, as it will be an integral part of the axle.

3. The gear wheel must now have its bearing enlarged and—a word of warning here—this is a most vital job, for the gear must be drilled true ; the slightest deviation in drilling will produce a wobble which will prevent the gear meshing with its worm. I drilled mine $\frac{5}{32}$in., using a vertical drill stand purchased some while ago for five shilling from—yes, you have it, Woolworths (usual disclaimer, but this is a very useful tool).

The brass tube, cut to required length, is now force fitted through the gear and the axle slipped in. A careful but firm squeeze with pliers close to and

on either side of the gear will clamp the tube to the axle and prevent slipping when the loco is under load.

4. Before reassembling the mechanism the unsightly couplings can be removed by pressing out the holding pin with a firm piece of wire. I replaced these with Peco Simplex, but it should be easy to fit any type of coupling.

The mechanism is now bolted together again, the front and rear tubes are inserted, making sure they are a tight fit, a spot of oil is inserted in each tube and the axles are slipped through. If Hamblings wheels are used (as I did—I like their pick-up qualities) the original pick-up on the insulated side of the loco can be retained. A phosphor-bronze wire pick-up can be fitted on the opposite side by tapping into the frame, screwing in an 8 B.A. brass screw and soldering the bronze pick-up to this, shaping it so that the wire bears down on the wheel treads.

An interesting and successful little job, well worth doing, for both appearance and performance are greatly improved. One last reminder—the centre wheel, comprising gear, brass tube sleeve and axle, are to all intents and purposes one unit; the front and rear axles rotate in the tube sleeve.

Derby. R. L. CARABINE.

BATTERY CHARGERS

I was rather astonished to observe in the Advice Bureau of the July number that a 12-volt battery charger was not particularly suited as the power supply for a model railway.

Two years ago I started on a layout and my power supply for a single loco was a 6-volt headlamp battery, with a discarded aerial-earth D.P.D.T. knife-switch in series for forward-reverse control. I then considered the possibilities of power from the mains, and making use of an Atlas 2-6-12-volt 1-amp battery charger which I possessed and infrequently used to charge my car battery. Having got a relative who was an electrician to check the same with regard to voltage and correct rating, and who also gave me an older type of Trix controller, I then connected up to 6-volt tapping controller and knife-switch in series, and got excellent results for ordinary running and shunting. I stepped up to the 12-volt output, and power was all that could be desired. The layout has since acquired two other locos, and with this simple hook-up I get very flexible control for all purposes, enjoying in addition the joys of double-heading and banking. Should I inadvertently bring all three locos into circuit at once the fuse in the charger blows, and is easily noted and replaced. Should any dead shorts occur on the track, the Trix cut-out comes into play, so that the layout and electrical equipment are amply safeguarded. My advice to the newcomer would be to make use of a *suitable* battery charger if he has one, provided it is of the right voltage output and reasonable amperage for his requirements, plus *fuse and cut-out*.

I have compared my battery charger with a proprietary power pack of similar voltage and amperage, and from results over a period of time the battery charger has been infinitely superior.

As a matter of interest, one's layout power supply is an admirable barometer of the British Electricity Authority's output. One finds that, although lights work and electric clocks keep time, railway traffic during the day is sluggish unless the controller is opened out more, whereas in the evenings and on Sundays loco running becomes much more lively with less throttle, showing some signs that generators are working to peak loads, and that one's power pack is not at fault.

Colne. H. PUGHE MORGAN.

[Battery chargers are not expressly designed for model railway control purposes and, although they can be used, we would not recommend their purchase in preference to the correctly designed units for the following reasons. When charging batteries, short circuits are a rare occurrence, hence fuses are fitted rather than cut-outs needed for model railway protection, for short circuits are the most common (and least troublesome) fault on a layout. Most battery chargers give 6- and 12-volt outputs, and many have ammeters. These refinements are not needed for a model railway power unit. As a result battery chargers are somewhat more expensive, especially when the cost of a controller is added. Incidentally, we would remind our readers with cars that their 12-volt power units make fine battery chargers with the addition of a cheap ammeter to check the charging rate!]

HIGHLAND RAILWAY CENTENARY

The opening of the Inverness to Nairn railway on November 5, 1855, saw the beginning of railway development in the Highlands. Next year, to mark the centenary, celebrations will be held, including an exhibition showing the progress of transport in the Highlands during the past 100 years.

A committee has been formed, under the chairmanship of Bailie R. R. MacEwen, to make arrangements for this exhibition, and plans are already well advanced. The exhibition period has been provisionally fixed for two weeks at the end of July and beginning of August and it is hoped to collect together a large number of exhibits to illustrate the modes of transport and travel in the Highlands during the past century.

While it is intended to show all modes of travel—steamer, coach and so on—emphasis will centre on the development of railway transport in the Highlands, and the committee would be grateful if anyone willing to lend exhibits, or who knows where such exhibits can be obtained, would get in touch with them through Miss M. O. MacDougall, the Public Library, Inverness. At this stage it is only information which is required. *Actual articles should not be sent.*

It is felt that many interesting links with the old railway must still be in the possession of old railway workers and other interested parties. Uniforms, caps, badges, photographs, models, railway guides, timetables, way bills, etc., would all help to make the exhibition more interesting and, no matter how unimportant such things may seem, the committee would be glad to hear of them. As other modes of travel will be exhibited, any materials likely to be of interest would be greatly appreciated. In short, anything likely to have any bearing upon transport in the Highlands would help to make the exhibition of greater public interest.

The Highland Railway was merged with the L.M.S. in January 1923, and the committee would be pleased to have any relics of the old "Highland" covering the period from the opening in 1855 to its merging with the L M.S. in 1923.

Inverness. MARGARET O. MACDOUGALL.

CLUB NOTICE BOARD

featuring popular personalities and society news

Personality Parade No. 37

G. T. F. Stanley

Edinburgh & Lothians Miniature Railway Club

G. T. F. Stanley's introduction to the hobby took place just before the war, when he began work on a "OO" gauge layout following strict Highland Railway practice. Unfortunately, during his absence elsewhere on pressing business during the intervening years all the equipment disappeared. Perhaps this was not altogether a complete loss, as he was then able to begin again with two-rail for his next system.

He was one of the founder members of the Edinburgh and Lothians club, and was elected the first "OO" gauge section chairman. Later still, he was given the arduous position of honorary secretary, since when progress on his own system has come to a virtual standstill.

NOTES AND NEWS

Copy for these columns must be received five weeks before publication.

NORTHOLT MODEL RAILWAY CLUB

Northolt Village Community Association, Ealing Road, Northolt

The above club was formed in 1950 for the benefit of model railway enthusiasts.

The club layout, "OO" gauge, 16.5mm., stud contact, with approximately 350 feet of track, consists of a large continuous circuit and reversing loop, all double track, a single line branch and a large main terminus.

A test track suitable for two-rail and outside and centre third rail is also being constructed.

Club nights are every Wednesday and Friday, 7.30 until 10.30 p.m.; track nights first and third Fridays every month. A canteen is available. The annual subscription is 16/- senior members, 8/- junior members (junior member 14 to 15, or until such time as he leaves school).

Note.—As the club is a section of the Community Association, all members must join the association; annual subscription 2/6. There is also a small charge of 3d. per night per member for the use of light, heat, etc.

Full details from the Hon. Secretary of Northolt Model Railway Club, R. G. Turner, 5 Craven Avenue, Southall.

HISTORICAL MODEL RAILWAY SOCIETY

Mr. R. W. Kidner, of the Oakwood Press, will give a talk entitled "Oddities of Railway Traction" to the Historical Model Railway Society at 7 p.m. on January 10, 1955, and Sir Eric Hutchison, a vice-president of the society, will talk about "The Highland Railway as a prototype for modelling" at the same time on February 7, 1955.

Both these talks will take place at the headquarters of the Stephenson Locomotive Society at 32 Russell Road, W.14.

JANUARY MEETINGS

BIRMINGHAM MODEL RAILWAY CLUB
6 Track night.

COULSDON MODEL RAILWAY SOCIETY
3 *Annual general meeting.*

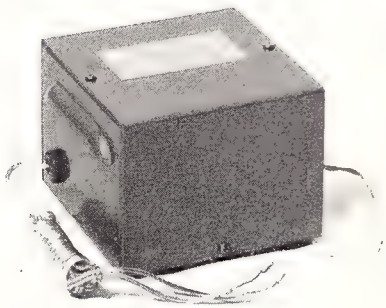
HULL MINIATURE RAILWAY SOCIETY
6 Annual dinner.
13 Track night.
20 Ten-minute talks.
27 Track night.

LEICESTER MODEL RAILWAY GROUP
13 *Annual general meeting.*

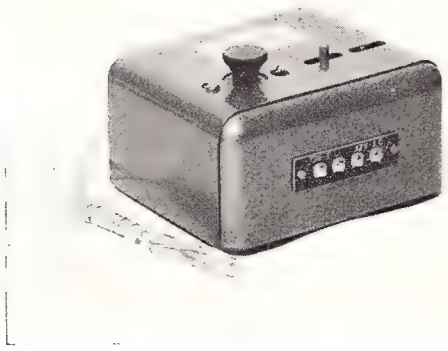
MODEL RAILWAY CLUB
6 Track night—Southern.
20 Members' photographs on the episcope.
27 Track night—G.W.R.

WIMBLEDON MODEL RAILWAY CLUB
12 Models-under-construction night.
26 *Annual general meeting.*

NEWS AND VIEWS OF TRADE INTEREST TRADE



A.B.C. Type A unit.



A.B.C. Type B2 unit.

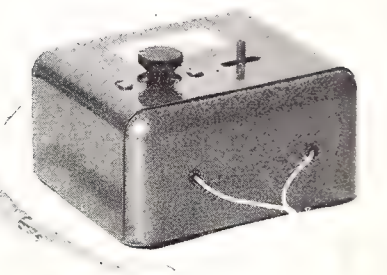
A.B.C. POWER UNITS

THE well-known A.B.C. range of power units have recently been restyled, as will be seen from the photographs of the four models reproduced on this page. There is no difference in quality between the various types ; in fact the same components are used throughout, the difference in price merely reflecting the scope of the units.

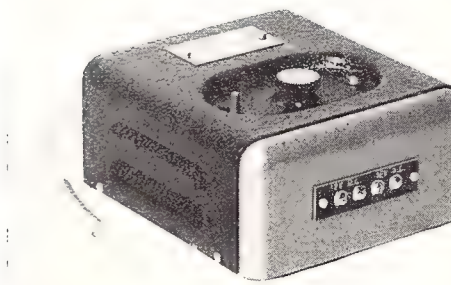
The Type A unit provides, by means of two pig-tail leads, a 12v. D.C. output at 1 amp, thus for model railway operation an additional controller will be needed. This is provided by the B2 unit, which incorporates a variable resistance and reversing switch ; the latter has a commendable snap action and a centre off position. The B2 unit is fitted with a thermal cut-out to protect the unit in the event of short circuit, and has a 16v. 1a. A.C. output in addition to the controlled D.C. A neat terminal strip is provided with unlosable terminals. Incidentally, the A.C. output is also protected by the thermal cut-out.

The Type C unit is an economy version of the B2, providing the same facilities for controlled 12v. D.C. supply but without the cut-out and A.C. output.

These units are excellent where economy is the first consideration, but where a little extra is required it is the Super Pulse Power unit that commands the greatest interest. The controls are recessed, as shown in our photograph, and instead of a manual reset the thermal cut-out is completely automatic in operation, a green warning light being provided to indicate the presence of an overload. There is, therefore, very

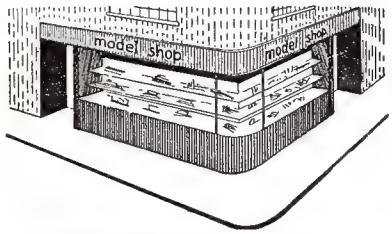


A.B.C. Type C unit.



A.B.C. Type Super Pulse Power unit.

WINDOW



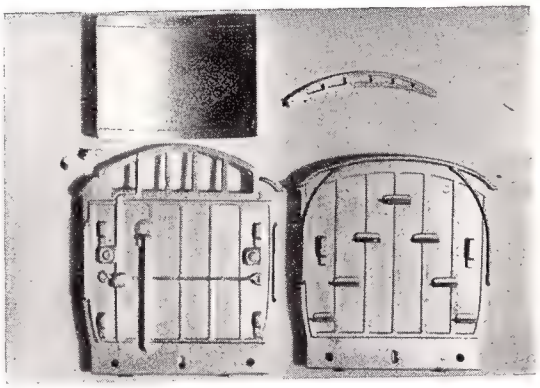
C.C.W. " Birdcage " brake 3rd.

little to differentiate this unit from its fellows externally. However, when it is coupled up to the layout the difference is immediately apparent, for control in the lowest register is superlative, due entirely to the provision of pulse power on the slow portion of the control. As speed is increased the pulse power is automatically cut out and straight D.C. is applied to the locomotive. Under these conditions there is no difficulty whatever in obtaining excellent starting and stopping, while shunting is particularly effective. Moreover, as the motor is developing full power while under pulse power, the heaviest trains can be handled with ease.

These four models provide a well-balanced series of power units to suit all requirements.

" BIRDCAGE " KITS—C.C.W.

The latest addition to the C.C.W. range of coach kits are ex-S.E.C.R. " Birdcage " brake third coaches. These distinctive vehicles are still to be seen in considerable quantities on the Eastern Section of the Southern Region, and, as can be seen from our illustration, make a most attractive model.



C.C.W. " B " ends for " Birdcage."

It might be thought that the birdcage roof—which for the benefit of newcomers to the hobby is the raised lookout over the guard's compartment—would be a particularly difficult item to model. However, the special cast ends now provided with so many C.C.W. kits in the B series provide the answer. As can be seen from our close-up, the end windows, raised roof and forward look-out windows are supplied as castings, while the end of the roof is chamfered to provide the necessary " daylight " behind the windows. Moreover, all end panelling, steps and other details are cast in place, thus simplifying the construction of a fully detailed model. The kit is fully up to the high standards previously set by C.C.W.

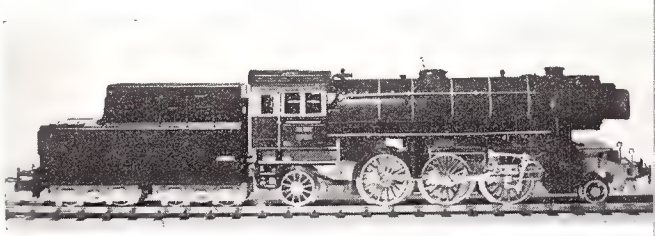
NEW MARKLIN 2-6-2

The massive 2-6-2 of undoubted German lineage illustrated below is the latest Marklin locomotive to be available in this country. As can be seen, it is a most attractive model, and its performance, needless to say, fully lives up to the standard set by other items of this range we have reviewed on previous occasions. The locomotive is fitted with a 20v. wound field motor, reversal being effected by an impulse of higher voltage current or by means of the conveniently placed hand lever on the footplate. Working headlamps are fitted, and the trailing drivers have plastic tyres for greater adhesion.

The body is moulded in plastic and the detail and finish are particularly commendable. Access to the mechanism for oiling and routine maintenance is easily obtained by removing a single screw concealed in a dome, whereupon the body lifts clear. Pick-up is via the now standard Marklin shoe, which enables the locomotive to operate on centre third or the Marklin pattern stud contact track. This model was submitted for review by Taylor and McKenna, from whom it can be obtained.

HIRE PURCHASE

Messrs. Taylor and McKenna have recently inaugurated a hire purchase scheme for model railway equipment. Particulars and application form will be sent free on request.



The new Marklin 2-6-2.

ADVICE BUREAU

The Bureau is at your disposal to assist you with your problems. The service is free, individual and personal, but we reserve the right to publish any query we consider to be of interest. The advice given is based on the experience and opinions of our staff.

Queries should be addressed to the Peco Technical Advice Bureau, Pecoway, Station Road, Seaton, and should be accompanied by a S.A.E. and coupon on page ix. We regret that we cannot prepare special designs for individual readers.

We are disturbed because—

Every month we receive at least one letter from someone with no electrical knowledge who has obtained a transformer of unknown lineage which he proposes to use as part of a power unit. We do our best to dissuade the writers for fear of the almost inevitable sequel, a short paragraph in the newspapers headed "Toy Train Set Kills Man." This, to say the least, would be bad publicity for our hobby, as many people still believe that an electric model railway is dangerous, whereas, provided the power unit is properly insulated and built by competent persons, no danger whatsoever exists; but whenever anyone who does not know what he is doing starts playing around with mains electricity there is considerable risk.

There is no need to take this risk, as there are nowadays a large number of power units available at prices to suit all pockets. It is false economy to try to save a few shillings on a power unit and run the risk of electrocution. Unless you are thoroughly familiar with mains electricity the only safe course is to purchase a ready-made unit designed for the job in hand.

I wish to use "O" gauge Insulaxles for the driving axles of an "HO" engine. These are very much larger in diameter than "OO" gauge Insulaxles, so I propose to bore the wheels for "O" gauge Insulaxles and then cut to length. Can you offer any advice?

R.A.C., PEMBROKE DOCK.

We cannot recommend the use of Insulaxles for locomotive driving wheels. These Insulaxles are intended solely for rolling stock. For locomotives a proper turned bush or an insulated rim is essential.

I find that my Hammant and Morgan control unit's red light keeps flashing on and off as my loco, a Graham Farish "Prairie" tank, goes along the track backwards but not as it goes forward. Can you please tell me what is causing this flashing? Could it be dirty track or what? It does not flash if the loco is taken off the track and turned upside down and put into reverse.

A.P., OSWESTRY.

The flashing of the warning light on your unit indicates that an overload is being applied, which points to some deficiency either in the motor or transmission, which is causing the locomotive to take excessive current in the reverse direction. As this does not occur when the locomotive is inverted and no load is applied to the wheels it seems to us to indicate transmission trouble. The absence of a severe overload at low speeds would be explained by the fact that the speed control is limiting the current. We would suggest, therefore, that you have your motor and chassis thoroughly overhauled by a competent repairer.

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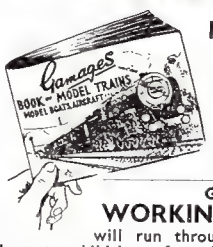

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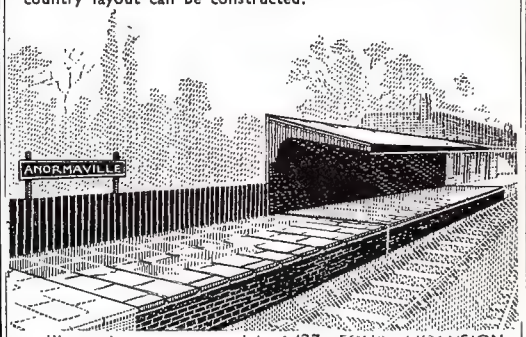

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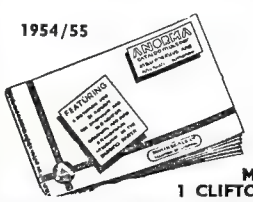

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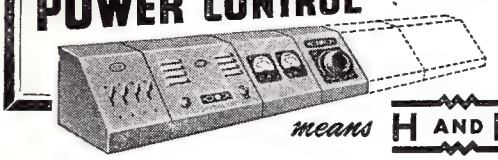

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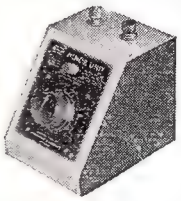

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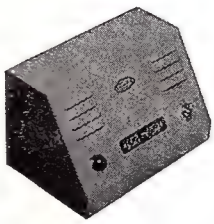

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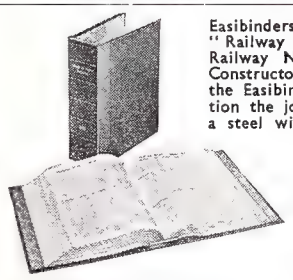

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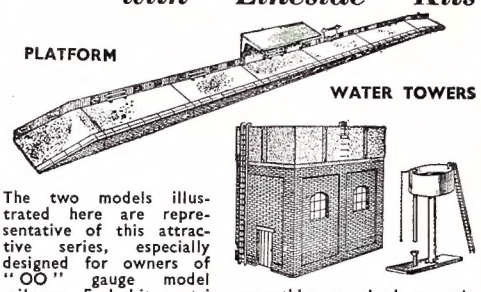

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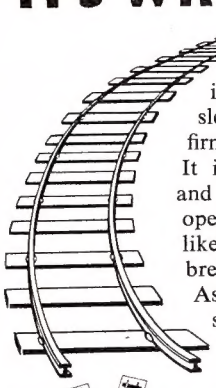

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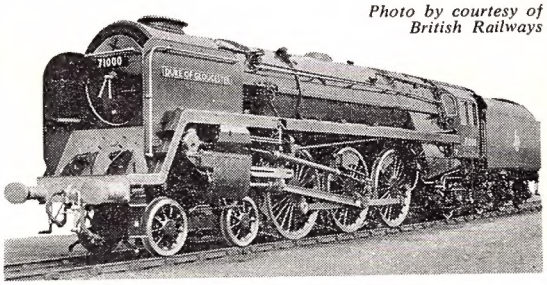

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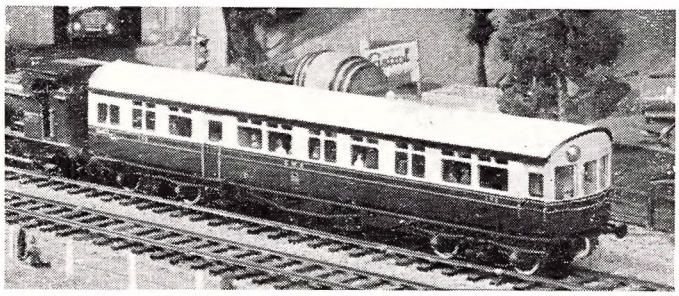

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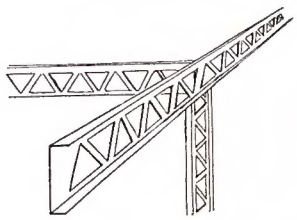

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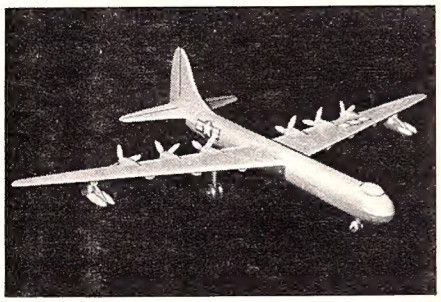

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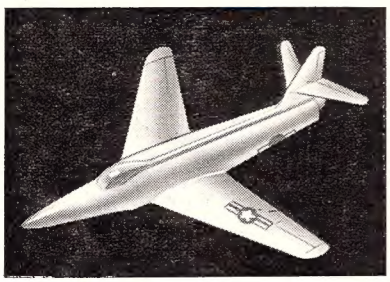

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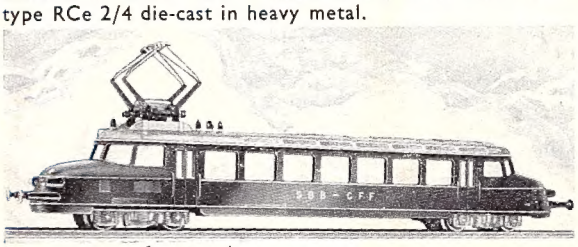

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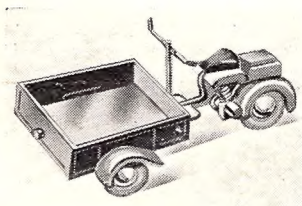

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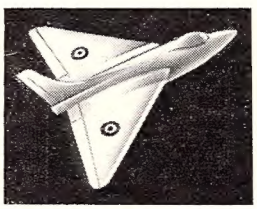

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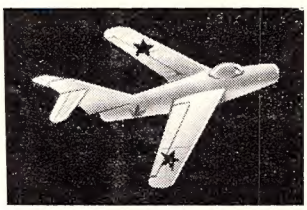

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